

REMARKS

By this amendment, the original claims 1 and 2 are combined into a single claim 1. Thus, claim 2 by itself is cancelled.

In the last Office Action, claim 2 is rejected for being obvious under 35USC103 based on the teachings of Carter, et al. (6,836,131) and Patel, et al. (6,550,263). This rejection occurs in paragraphs 2 and 3 of the last Office Action. However, for reasons which will now be explained, the above patents `131 and `263 do not teach claim 1 as herein amended.

The last clause of the amended claim 1 expressly recites "a closed-loop control means for . . . c) heating said IC-module, if said set-point exceeds said sensed temperature, by sending electromagnetic radiation through said window onto said IC-module." By comparison, the systems which are described in the patents `131 and `263 merely cool the IC-module; they do not heat the IC-module. Further, the systems which are described in the patents `131 and `263 merely have a window through which an IC-module is inspected with a microscope; they do not heat an IC-module by passing radiation through a window onto the IC-module.

With regard to patent `131, paragraph 2 of the office action makes reference to Fig. 9b. But in that figure, IC-module 960 is merely cooled. This cooling occurs by passing heat from the IC-module 960 to a "heat-spreader" 974 and spraying the edge of the heat-spreader with a coolant from "spray heads" 916.

The heat-spreader 974 is described in patent `131 as being "transparent". But the reason for this transparency is that the heat-spreader is "in the optical path" of the microscope which inspects the IC-module. See patent `131 at lines 28-34 of column 11, and see Fig. 8 wherein item 805 is the microscope which inspects the IC-module 960 by looking through the heat-spreader 974.

By comparison, claim 1 as amended recites "a closed-loop control means for . . . b) cooling said IC-module . . . and c) heating said IC-module. . .". The cooling occurs when "said sensed temperature exceeds said set-point", and the heating occurs when "said set-point exceeds said sensed temperature". One example of the cooling is shown in Fig. 3B of the present application where chip power is 200 watts, and one example of the heating is shown in Fig. 3C where chip power drops to zero watts. In patent `131, the disclosed system cannot keep the IC-module at the set-point temperature when power dissipation in the IC-module drops to a low level, such as zero watts.

With regard to patent `263, paragraph 3 of the office action makes reference to the Abstract, column 5 at lines 37-44, and column 6 at lines 34-61. But here again, all of the cited parts of the patent merely describe mechanisms for cooling an IC-module. No mechanism is described for heating an IC-module in patent `263. Further, no system is described in patent `263 which heats an IC-module by passing radiation through a window onto the IC-module. Thus the system in patent `263 cannot keep the IC-module at the set-point when the power dissipation in the IC-module drops to zero watts.

Based on the above differences between claim 1 as amended and the cited patents `131 and `253, claim 1 should now be in a condition for allowance. Also, since all of the

remaining claims 3-14 are dependent on claim 1, they should be in a condition for allowance.

Entrance of this Amendment and an early Notice of Allowance of claim 1 and 3-14 is requested.

Respectfully submitted,

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